

H-204258

REMARKS

Claims 1-12, 14, and 23-32 are pending in the present application. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks, that are set forth below with reference to the numbered paragraphs in the Office Action.

Claim Rejections Under 35 U.S.C. §112, Second Paragraph

2.

Claims 1-12, 14, and 23-31 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner alleges that in Claim 24, "extreme" is a relative term and does not clearly set forth the metes and bounds of the patent protection desired, and therefore renders the claim vague and indefinite.

Applicant respectfully traverses this rejection.

Applicant respectfully but strenuously disagrees that "extreme" is indefinite, and submits that "extreme" has a definite meaning when used as an adjective in the context of a description of an object or device. For example, the American Heritage Dictionary (<http://www.yourdictionary.com>) provides, as the first definition of "extreme," the "most remote in any direction; outermost or farthest," e.g., "the extreme edge of the field." Secondary meanings, "being in or attaining the greatest or highest degree"; "very intense"; "extending far beyond the norm"; "of the greatest severity"; "very dangerous or difficult"; and "last", would clearly not apply because they would make no sense if they were to be applied to the converter.

When the claims are read in light of the specification and drawing, "said first endplate defining a first extreme end of said converter" clearly refers to the outermost or farthest, or terminal position in the converter, the outside ends of the converter.

MPEP 2173.02, paragraph 1, lines 1-6, provides that the focus, in determining compliance with the requirement of definiteness under 35 U.S.C. §112, second paragraph is: "Whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available." Allowable claims should "define the patentable subject matter with a reasonable degree of particularity and distinction. Some latitude in the manner of expression and the aptness of the terms should be permitted even though the claim language is not as precise as the examiner might desire. (*Id.* at lines 7-15.)

H-204258

The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

(Emphasis added.) (*Id.*, paragraph 2.)

The examiner:

must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. §112, second paragraph by providing clear warning to others as to what constitutes infringement of the patent.

(See, e.g., *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000).) (*Id.*)

In the present case, it is clear from Applicant's drawing and specification and a review of Claim 24, that the language of the claim, "a first extreme end of said converter," clearly refers to the outermost or farthest, or terminal position in the converter, and that this claim language is sufficient to give notice to a person of ordinary skill in the art regarding what does and what does not infringe. (*Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993).

Thus, Claim 24 meets the definiteness requirements of 35 U.S.C. §112. For at least the foregoing reasons, reconsideration and withdrawal of the rejections based on U.S.C. §112, second paragraph are requested.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 1-8, 10, and 23-32 stand rejected under 35 U.S.C. §102(b), as allegedly anticipated by Otani *et al.* (U.S.P.N. 4,413,392), (hereinafter "Otani '392").

Applicants respectfully traverse this rejection.

The present application is directed to an exhaust system converter, comprising: a catalyst; a first endplate, positioned adjacent to a first end portion of said catalyst, said first

H-204258

endplate defining a first extreme end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom; a second endplate, positioned adjacent to a second end portion of said catalyst, said second endplate defining a second extreme end of said converter and comprising a second endplate support mechanism extending perpendicularly therefrom toward said catalyst; a mat support substantially covering said catalyst, said mat support extending beyond a face of the catalyst over at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst; and a shell disposed around said catalyst and said mat support, and is disposed around and in intimate contact with at least a portion of said first endplate and said second end plate.

As shown in Figures 4 and 5, Applicant teaches that an assembled substrate 20, end plates 30, and mat 40 may be easily inserted into oversized shell 50, which has a length substantially the same as that of the assembly. As shown in Figures 5 and 6, the shell is then reduced in size to the shape of end plates 30, that are on the extreme ends of the converter. (See also, Specification, p. 7, lines 25-29.) This size reduction further presses the intumescent mat 40 against the substrate 20 and against any end plate support mechanisms 32 which may be present in preferred embodiments. Such size reduction also compressively seals the shell 50 to the outer periphery of the end plates 30. (Specification, p.7, line 30 - p.8, line 3.)

In contrast, Otani '392 is directed to a method of making a catalytic converter constructed by simultaneously pushing two catalyst elements through the intermediary of flanged sleeves into opposite ends of the catalyst casing, using tapered guide rings and flanged pusher bars to squeeze peripheral cushions into place within the catalyst casing and around each of the catalyst elements. Welding electrodes are employed in combination with the flanged pusher bars to spot weld the catalyst casing to the flanged sleeves. (Otani '392, Col. 1, lines 30-40, and Abstract.)

In making the rejection, the Examiner alleges that Otani '392 discloses a catalytic converter comprising: a catalyst 21; a "first end plate" 36 positioned adjacent to a first end portion of said catalyst 21, said "first end plate" 36 defining a first end of the converter and comprising a "first endplate support mechanism" extending perpendicularly therefrom toward said catalyst 12 (Fig. 6); a mat support 23, 23a substantially covering said catalyst 21 and a portion of the "first endplate support mechanism"; and a shell 19 [the catalyst casing] having a diameter greater than that of the "first end plate" wherein said shell 19 is disposed around said

H-204258

catalyst 21 and said mat support 23, and is disposed around and in intimate contact with at least a portion of said "first end plate" 36. (Paper 17, pages 2-3)

The Examiner states further that with respect to Claims 29-30, Otani et al '392 discloses that the first end plate including end plate and a portion of endplate being disposed in spaced relation to the first end portion of the catalyst. The Examiner also alleges that, with respect to Claims 31-32, Otani et al '392 discloses that the first and second endplates are flat. The Examiner further alleges that instant Claims 1-8, 10, and 23-32 structurally read on the apparatus of Otani et al '392.

Applicant respectfully but strenuously transveres this rejection.

The foregoing assertions by the Examiner misconstrue the teachings of Otani '392. First, in Otani '392 there is no "first endplate" defining a first extreme end of said converter, and no "second endplate" defining a second extreme end of said converter, or anything that is similar to Applicant's endplates, each located at an extreme end of the converter.

What the Examiner refers to as "said first end plate 36" in Otani '392 is designated in the patent as a "flanged sheet" (Col. 3, line 4), or a "flanged sleeve" (Col. 3, line 16). The flanged sheet of Otani '392 has a different location, a different design, and a different function. With respect to design, in contrast to Applicant's endplate, the "flanged sleeve" of Otani '392 is a wide open cylindrical ring to which a muffler may be attached, as shown in Figure 2.

The locations of the flanged sleeves to which the Examiner refers as "endplates" are not locations defining a first extreme end of said converter, as do the endplates in Applicant's claims. With respect to function, in Otani '392 the "flanged sheets" 36 and 37 are placed over enlarged ends 38 and 39 of pusher bars 41 and 42. Simultaneously the two catalyst elements 21 and 22 and gasket rings 23a and 24b are pushed into opposite ends of the casing 19, using tapered guide rings 32 and 33 and flanged pusher bars 34 and 35 to squeeze the peripheral cushions 23 and 24 into place within the casing 19 and around the catalyst elements 21 and 22. (See, e.g., Col. 3, lines 4-12.) The simultaneous pushing of the two catalyst elements into opposite ends of the catalyst casing is "through the intermediary of flanged sleeves." (Otani '392, Col. 1, lines 30-36.) A front muffler is disposed over the flange sleeve. (See 10 in Figure 2)

To anticipate a claim, a reference must disclose each and every element of the claim. (*Lewmar Marine v. Variant Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).) Moreover, the single

H-204258

source must disclose all of the claimed elements "arranged as in the claim." (*Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).)

Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

The Examiner has not established that the single source, Otani '392 discloses all of Applicant's claimed elements "arranged as in the claim." For example, as explained above, in Otani '392 there is no "first endplate" defining a first extreme end of said converter, and no "second endplate" defining a second extreme end of said converter, or anything that is similar to Applicant's endplates, each located at the outermost or farthest, or terminal position in the converter, the outside ends of the converter.

Applicant's claims therefore meet the requirements of 35 U.S.C. §102(b) with respect to Otani '392. For at least the foregoing reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. §102 (b) as being anticipated by Otani '392 are requested.

5.

Claims 1-8, 10, 14, 23-27 and 29-32 stand rejected under U.S.C. §102(b) as being anticipated by Otani et al (4,581,206), hereinafter "Otani '206").

In making the rejection, the Examiner alleges that:

Otani et al '206 discloses a catalytic converter comprising: a catalyst 28; a first end plate 52 positioned adjacent to a first end portion of said catalyst 28, said first end plate 52 forming a first end of the converter and comprising a first endplate support mechanism extending perpendicularly therefrom toward said catalyst 28 (Fig. 2); a mat support 40, 44 substantially covering said catalyst 28 and a portion of the first endplate support mechanism; and a shell 32 having a diameter greater than that of the first end plate wherein said shell 32 is disposed around said catalyst 28 and said mat support 40, 44, and is disposed around and in intimate contact with at least a portion of said first end plate 52.

With respect to claims 29-30, Otani et al '206 discloses that the first end plate including end plate and a portion of endplate being disposed in spaced relation to the first end portion of the catalyst.

H-204258

With respect to claims 31-32, Otani et al '206 discloses that the first and second endplates are flat.

(Office Action, Paragraph 5.)

The Examiner further alleges that, instant Claims 1-8, 10, 14, 23-27 and 29-32 structurally read on the apparatus of Otani et al '206.

Applicant respectfully but strenuously transveres this rejection.

The present application is directed to an exhaust system converter, comprising: a catalyst; a first endplate, positioned adjacent to a first end portion of said catalyst, said first endplate defining a first extreme end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom; a second endplate, positioned adjacent to a second end portion of said catalyst, said second endplate defining a second extreme end of said converter and comprising a second endplate support mechanism extending perpendicularly therefrom toward said catalyst; a mat support substantially covering said catalyst, said mat support extending beyond a face of the catalyst over at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst; and a shell disposed around said catalyst and said mat support, and is disposed around and in intimate contact with at least a portion of said first endplate and said second end plate.

As shown in Figures 4 and 5, Applicant teaches that an assembled substrate 20, end plates 30, and mat 40 may be easily inserted into oversized shell 50, which has a length substantially the same as that of the assembly. As shown in Figures 5 and 6, the shell is then reduced in size to the shape of end plates 30. (Specification, p. 7, lines 25-29.) This size reduction further presses the intumescent mat 40 against the substrate 20 and against any end plate support mechanisms 32 which may be present in preferred embodiments. Such size reduction also compressively seals the shell 50 to the outer periphery of the end plates 30. (Specification, p.7, line 30 - p.8, line 3.)

In contrast, Otani '206, as in Otani '392, is directed to a converter having multiple catalytic elements within a cylindrical casing, the catalytic elements being retained in longitudinal compression against the moveable set plate in the middle of the converter by either

H-204258

the first or second "end" set plates. (Otani '206, Col. 1, lines 56-66; and Claim 1.) It should be noted that elements 52 and 54 in Otani '206 are internal to the case 32 and not "extreme".

The foregoing assertions by the Examiner misconstrue the teachings of Otani '206.

The catalytic elements in Otani '206 are "retained in longitudinal compression against said set plate in the middle by said first and second end set plates." (Claim 1, Col. 4, lines 26-28.) The middle set plate is free to slide. (Claim 1, Col. 4, lines 12-13.) In contrast to prior art converters having multiple catalytic elements, wherein the set plate in the middle is spot-welded in place (*Id.*, Col. 1, lines 35-40), the middle set plate of Otani '206 is not anchored to the cylindrical casing, and will thus adjust "to provide equal pressure on the adjacent cushions and in turn on the catalytic elements. (*Id.* at Col. 1, lines 56-64.) Thus, in Otani '206 each of the catalysts is retained in longitudinal compression against the set plate in the middle (clearly not an extreme end of the converter) by either the first or the second "end set plates", neither of which are an extreme end of the converter.

In contrast, in Applicant's claimed converter, due to the method of size reduction, compression forces are primarily from the periphery to the central axis of the cylinder. Furthermore, in one embodiment of Applicant's disclosure, longitudinal compressive forces on the catalyst are exerted across the entire length of the catalyst longitudinally from one extreme end of the converter to the other extreme end of the converter.

In Otani '206, the compressive forces are not exerted longitudinally across the whole catalyst from one extreme end of the converter to the other extreme end of the converter. Instead, according to the specification and claims of Otani '206, the longitudinal compressive force on the catalytic elements is against the set plate in the middle by the first and second end set plates.

In Otani '206 there is no "first endplate" defining a first extreme end of said converter, and no "second endplate" defining a second extreme end of said converter.

Even if one were to argue that the present end plates in Otani '206 are at extreme ends of the converter, the longitudinal compressive force on the catalytic elements is against the set plate in the middle by the first and second end set plates. The compressive forces are not longitudinally across the whole catalyst from one extreme end of the converter to the other extreme end of the converter.

H-204258

Even if one were to argue that the middle set plate of Otani '206 is an "end plate" and argue that each catalyst is maintained in longitudinal compression between an end plate previously designated as an end plate and the middle set plate, the compressive forces would still not be across the entire length of the catalyst longitudinally from one extreme end of the converter to the other extreme end of the converter, as in Applicant's invention.

There is no teaching or suggestion in Otani '392 of an exhaust system converter, comprising a catalyst; a first endplate positioned adjacent to a first end portion of said catalyst, said first endplate defining a first extreme end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom toward said catalyst; a mat support substantially covering said catalyst and at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst; and a shell having a diameter greater than that of said first endplate, wherein said shell is disposed around said catalyst and said mat support, and is disposed around and in intimate contact with at least a portion of said first endplate.

Applicant's claims therefore meet the requirements of 35 U.S.C. §102(b) with respect to Otani '206. For at least the foregoing reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. §102 (b) as being anticipated by Otani '206 are requested.

Claim Rejections Under 35 U.S.C. §103(a)

8-10.

Claims 11-12 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable over Otani et al ('392 or '206) in view of either Hass (3,832,443) or Keith et al (3,441,381).

Claims 4, 9, and 14 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable over Otani et al ('392).

Claim 4, 9, and 28 stands rejected under 35 U.S.C. §103(a), as allegedly unpatentable over Otani '206.

Applicant notes that the rejected claims depend from Claims 1 and 24, both of which should be allowable, and thus the dependent claims should be allowable. For at least the foregoing reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) in view of the cited references are requested.

FAX RECEIVED
JUL 25 2003
GROUP 1-70

H-204258

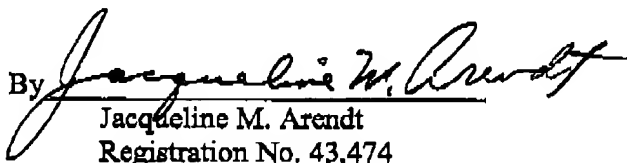
It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

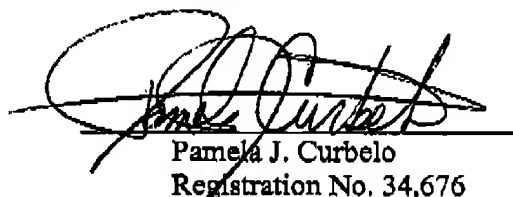
If the Examiner feels that a telephone conference would expedite allowance of this case, the Examiner is invited to call the undersigned at (860) 286-2929.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By 
Jacqueline M. Arendt
Registration No. 43,474


Pamela J. Curbelo
Registration No. 34,676

CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (860) 286-2929
Facsimile (860) 286-0115

Date: July 24, 2003
Telephone: (860) 286-2929